AMENDMENT AND RESPONSE UNDER 37 C.F.R. § 1.111

Serial Number: 10/716,269

Filing Date: November 17, 2003

Title: APPARATUS AND METHOD FOR PASSIVE PHASE CHANGE THERMAL MANAGEMENT

Assignee: Intel Corporation

IN THE CLAIMS

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Docket: 884.242US2 (INTEL)

Please amend the claims as follows:

- (Original) A method comprising:
 forming a conductive structure having a cavity;
 injecting a phase change material into the cavity;
 injecting a plurality of spheres into the cavity; and
 sealing the cavity.
- 2. (Original) The method of claim 1, wherein forming a conductive structure having a cavity comprises:

forming a conductive structure having a cavity including a cavity surface having a plurality of ramp structures formed on the cavity surface.

3. (Original) The method of claim 1, wherein injecting a phase change material into the cavity comprises:

injecting TH58 into the cavity.

4. (Original) The method of claim 1, wherein injecting a plurality of spheres into the cavity comprises:

injecting a plurality of solid spheres into the cavity.

5. (Currently Amended) The method of claim 1, wherein sealing the cavity comprises: closing an injection hole in the <u>conductive structure heat sink</u>.

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- 6. (Withdrawn) An apparatus comprising:
 - a phase change material;
 - a plurality of particles intermixed with the phase change material; and
- a conductive structure encapsulating the phase change material, the conductive structure having a cavity including a cone shape.
- 7. (Withdrawn) The apparatus of claim 6, wherein the cone shape comprises a flat top cone.
- 8. (Withdrawn) The apparatus of claim 7, further comprising a die thermally coupled to the conductive structure, the die being centered on the flat top cone.
- 9. (Withdrawn) The apparatus of claim 6, further comprising a die thermally coupled to the conductive structure, wherein the cone shape includes a point, the die being centered on the point.
- 10. (Withdrawn) The apparatus of claim 9, wherein the phase change material comprises TH58.
- 11. (Withdrawn) An apparatus comprising:
 - a phase change material;
 - a plurality of particles intermixed with the phase change material; and
- a conductive structure encapsulating the phase change material and the plurality of particles, the conductive structure including a cavity having a first sloping surface and the cavity formed from a pair of symmetrical structures coupled together.
- 12. (Withdrawn) The apparatus of claim 11, wherein the phase change material includes TH58.
- 13. (Withdrawn) The apparatus of claim 12, wherein the plurality of particles includes spheres.

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14. (Withdrawn) An apparatus comprising:

- a phase change material;
- a plurality of particles intermixed with the phase change material; and
- a conductive structure encapsulating the phase change material and the plurality of particles, the conductive structure including a cavity having a first sloping surface, wherein the first sloping surface comprises a wedge running along a length of the cavity.
- 15. (Withdrawn) The apparatus of claim 14, wherein the conductive structure includes copper.
- 16. (Withdrawn) The apparatus of claim 15, wherein the conductive structure includes a plurality of fins.